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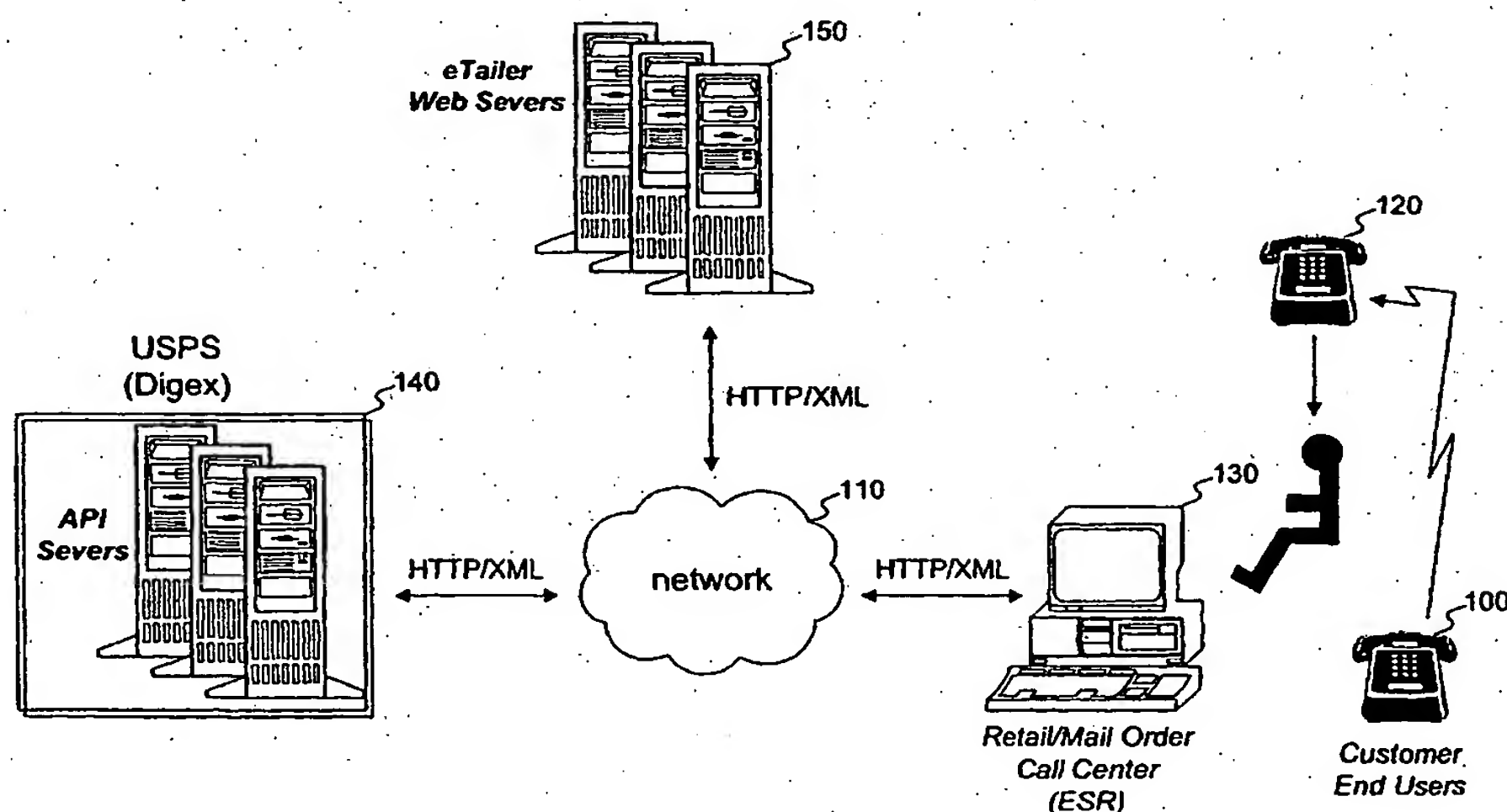
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(54) Title: **METHODS FOR AUTOMATED ACCESS TO SHIPPING SERVICES**



(57) Abstract: Systems and methods are disclosed for obtaining shipping services information over a network (110) by a telephone call center (130) receiving orders for merchandise. Instructions are received at the telephone call center (130), which permits the telephone call center (130) to access the shipping services information residing on a server (140). The telephone call center (130) generates a request for the shipping services information for shipment of the merchandise. The telephone call center (130) sends the request over the network (110) to the server (140) for the shipping services information. Thereafter, the server (140) sends the requested shipping services information to the telephone call center (130). The shipping service information may be in the format of a label, which may be attached to a package for shipment of the merchandise.

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METHODS FOR AUTOMATED ACCESS TO SHIPPING SERVICES
CROSS REFERENCE TO RELATED APPLICATION

[001] This application claims priority from U.S. Provisional Application Serial No. 60/230,871, filed September 7, 2000, by Stuart Willoughby and titled METHOD FOR AUTOMATED ACCESS TO SHIPPING SERVICES. This application is related to U.S. Provisional Application Ser No. 60/227,903, filed August 25, 2000, by Stuart Willoughby and titled SYSTEMS AND METHODS FOR APPLICATION PROGRAMMING INTERFACES FOR SHIPPING SERVICES, and Copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785), filed August 27, 2001, by Stuart Willoughby and titled SYSTEMS AND METHODS FOR APPLICATION PROGRAMMING INTERFACES FOR SHIPPING SERVICES, the entire disclosure of each is expressly incorporated herein by reference.

DESCRIPTION OF THE INVENTION

Field of the Invention

[002] This invention relates to obtaining shipping services information over a network by a telephone call center using application programming interfaces ("API's" or "Web Tools API") supplied by the United States Postal Service ("USPS"). A telephone call center receives orders for merchandise. The telephone call center requests shipping services information from a server for the shipment of the merchandise. The telephone call center receives the requested shipping services information from the server, and provides the shipping services information to an operator. The shipping services information may be provided to the operator in the format of a label. The telephone call center may include a facility for printing the label. The label may be attached to the packaged merchandise for shipment.

Background of the Invention

[003] In the aforementioned U.S. Provisional Application Serial No. 60/227,903 and copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785), methods are disclosed for providing an Internet customer with information relative to shipping services using application programming interfaces ("API's") supplied by the United States Postal Service ("USPS"). The API's are designed to provide access to USPS shipping data and

information over a network. The network is preferably the Internet; however, any type of network known to those skilled in the art may be used.

[004] The shipping services information to be transferred over the network may include postal rates, international and domestic service standards, addressing information, shipping labels, merchandise return labels, delivery confirmation labels, courtesy reply labels, etc. All of this useful shipping information resides on one or more USPS servers.

[005] Mail order retailers that use a telephone call center from which operators access a marketing database server while taking telephone orders from a customer have a need for the information provided by the above described API's but may not have the time for programming resources to integrate them into their existing systems.

[006] It is accordingly an object of an embodiment of the invention to provide access to USPS shipping information to telephone call centers, such as mail order retailers that use a telephone call center to take telephone orders from customers.

[007] This is achieved by providing, to telephone call centers, software that is integrated with the API's. For convenience the software will be referred to as "the shipping assistant." The shipping assistant may be installed on a computer for use by a telephone operator for accessing servers having USPS shipping information. The servers may include, for example, one or more USPS servers. The shipping assistant may be written in any programming language or tool known to those skilled in the art, for example, C, C++, visual basic, HyperText Markup Language ("HTML"), Extensible Markup Language ("XML"), etc.

SUMMARY OF THE INVENTION

[008] In accordance with an embodiment of the invention, systems and methods are disclosed for obtaining shipping services information over a network by a telephone call center receiving orders for merchandise. Instructions are received at the telephone call center, which permits the telephone call center to access the shipping services information residing on a server. The telephone call center generates a request for the shipping services information on the server for shipment of the merchandise. The telephone call center sends the request for the shipping services information

to the server. Thereafter, the telephone call center receives the requested shipping services information from the server. The telephone call center provides the shipping services information to an operator at the telephone call center.

[009] In accordance with another embodiment of the invention, systems and methods are disclosed for obtaining shipping services information over a network by a mail center, wherein the shipping services information is in the format of a label and includes postage thereon. Instructions are received at the mail center for accessing the shipping services information residing on a server; the mail center generates a request at the mail center for the shipping services information; sends the request for the shipping services information to the server over the network; receives at the mail center the requested shipping services information from the server over the network; and provides the shipping services information by the mail center to a customer.

[010] It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention, as claimed.

[011] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate one embodiment of the invention and together with the description, serve to explain the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[012] Fig. 1 is a schematic illustration of a system incorporating an embodiment of the invention through a telephone call system.

[013] Fig. 2 is a block diagram of a call center system consistent with the present invention.

[014] Fig. 3 is a flowchart showing a method for obtaining shipping services information over a network.

[015] Fig. 4 is a diagram of a user interface for logging into the shipping assistant;

[016] Figs. 5-21 illustrate a series of user interfaces to which a telephone call center operator employed by a telephone retail outlet may

access while taking an order from a customer using the method of the present invention. In particular,

Fig. 5 is a diagram of a user interface for accessing tracking and/or shipping confirmation information;

Fig. 6 is a diagram of a completed user interface for accessing tracking and/or shipping confirmation information;

Fig. 7 is a diagram of a user interface for accessing address checking information;

Fig. 8 is a diagram of a user interface for accessing domestic rates information;

Fig. 9 is a diagram of a user interface for a domestic rates restriction list;

Fig. 10 is a diagram of a user interface for accessing international rates information;

Fig. 11 is a diagram of a user interface for international rates, the user interface having a conditions of mailing list;

Fig. 12 is a diagram of a user interface for accessing service standards information;

Fig. 13 is a diagram of a service standards user interface showing a service standards response.

Fig. 14 is a diagram of a user interface for accessing shipping label information;

Fig. 15 is a diagram of a user interface for e-mailing a delivery confirmation number to a sender and recipient of a mail item;

Fig. 16 is a diagram of a user interface for accessing delivery confirmation information;

Fig. 17 is a diagram of a user interface for accessing merchandise return information;

Fig. 18 is a diagram of a user interface for e-mailing a merchandise return label to a sender of a mail item;

Fig. 19 is a diagram of a user interface for displaying a merchandise return label;

Fig. 20 is a diagram of a user interface for accessing courtesy reply information; and

Fig. 21 is a diagram of a user interface for displaying a courtesy reply label.

[017] Fig. 22 is a schematic illustration of a system incorporating an embodiment of the invention through a back office mail center system.

[018] Fig. 23 is a flowchart showing a method for obtaining shipping services information over a network by a back office mail center system.

DESCRIPTION OF THE EMBODIMENTS

[019] Reference will now be made in detail to the exemplary embodiments of the invention, an example of which is illustrated in the accompanying drawings. Wherever possible, the same reference numbers will be used throughout the drawings to refer to the same or like parts.

[020] In accordance with the present invention, and as shown in Fig. 1, a retail/mail order telephone call center is represented by a mail order system 130 attended by an operator 120 accessible by a customer 100 via a telephone. Although only one call center system 130 is shown, it is intended as representative of a plurality of such systems, each with an operator 120 who has access to customers 100 by telephone. Each such call center system 130 is loaded with shipping assistant software supplied on an external storage medium, such as a compact disc ("CD"), floppy disk, etc.

[021] The CD includes software and data, which allows call center system 130 to access the various services provided by the USPS over a network 110, including access to the shipping services information residing on one or more servers 140, such as the USPS Web Tools API server ("Web Tools API server"). USPS Web Tools API server 140 is described in detail in the aforementioned U.S. Provisional Application Ser No. 60/227,903 and copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785). The CD also may include initialization routines, which install the shipping assistant software and data with a minimal amount of operator 120 interaction. Thus, the entire contents of the CD provides the ability for a call center system 130 to access the USPS shipping services information without having to write custom software.

[022] Call center system 130 is connected to Web Tools API server 140 via network 110, so that shipping services information corresponding to the user interfaces shown in Figs. 5-21 of the drawings is instantly available to

an operator 120. Network 110 may include, for example, a Local Area Network (LAN), a Wide Area Network (WAN), a wireless network, the Internet, an intranet, and/or any other network or communication medium known to one of ordinary skill in the relevant art. Communications between call center system 130 and Web Tools API server 140 or e-commerce server 150 may take place over network 110 through a secure sockets layer ("SSL") protocol or secure HyperText Transfer Protocol ("S-HTTP").

[023] Operator 120 may provide the shipping services information to an electronic commerce ("e-commerce") entity at an e-commerce server 150. E-commerce entities may include, for example, multi-carriers, electronic retailers, electronic shopping malls, auction houses, or third party vendors that buy in broker services over a network.

[024] Fig. 2 is a block diagram of a call center system 130 consistent with the present invention. Call center system 130 may include a processor 200, which connects over bus 210 to a memory 220, a secondary storage 230, a network interface component 240, and an input/output interface component 250. Memory 220 may include a shipping assistant component 275 and an operating system 280.

[025] Operation of call center system 130 is generally controlled and coordinated by operating system 280. Operating system 280 controls allocation of system resources and performs tasks, such as memory management, process scheduling, networking, and services, among other things.

[026] Secondary storage 230 may include a computer-readable medium, such as a hard disk drive, a compact disc ("CD") drive, or a read/write CD drive. From the CD drive or the read/write CD drive, software and data may be loaded onto the disk drive, which may then be copied into memory 220. Similarly, software and data in memory 220 may be copied onto the hard disk drive, which may then be loaded onto a read/write CD drive.

[027] Network interface component 240 may include hardware and software for sending and receiving data over network 110. Input/Output interface component 250 may include one or more of, for example, a keyboard, a pointing device, a keypad, a display unit, or a printing device.

[028] Fig. 3 is a flowchart showing a method for obtaining shipping services information over a network. An operator 120 receives an order for merchandise from a customer 100. Operator 120 may access a call center system 130 to log into a shipping assistant component 275. Once operator 120 is logged into shipping assistant component 275, she may send to shipping assistant component 275 a request for shipping services information relative to shipment of the merchandise order. As shown in Fig. 3, shipping assistant component 275 receives the request from operator 120 for the shipping services information (stage 310).

[029] Shipping assistant component 275 generates a XML request for the shipping services information (stage 320). Shipping assistant component 275 may make a network connection to Web Tools API Server 140 (stage 330). Next, shipping assistant component 275 sends the XML request to Web Tools API server 140 through network 110 (stage 340). Web Tools API server 140 receives the XML request, generates a XML response to the request, and sends the XML response over the network to call center system 130. The XML response includes the requested shipping services information.

[030] Preferably the requests and responses are implemented in Extensible Markup Language ("XML"); however, they are not limited to language and could be written in any programming language known to those skilled in the art. The format of the XML requests and responses are described in detail in the aforementioned U.S. Provisional Application Ser No. 60/227,903 and copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785).

[031] Shipping assistant component 275 receives the XML response (stage 350). Thereafter, shipping assistant component 275 extracts the shipping services information from the XML response (stage 360). Thereafter, shipping assistant component 275 may provide the shipping services information to operator 120 by, for example, displaying the shipping services information to operator 120 through a browser or user interface (stage 370).

[032] The shipping services information may be in the format, for example, of a label. The label may be printed on a printer and applied to a

package. Thereafter, the package may be placed into a mail stream for delivery to the recipient specified in the label. The mail stream may include, for example, the mail stream provided by the USPS.

[033] Operator 120 may provide the shipping services information to the customer 100. Alternatively, operator 120 may provide the shipping services information to an e-commerce entity at an e-commerce server 150.

[034] Fig. 4 is a diagram of a user interface for logging into the shipping assistant. An operator 120 may access a call center system 130 to log into a shipping assistant component 275. Shipping assistant component 275 may retrieve network information that was supplied during installation of the shipping assistant component 275 on call center system 103 for connecting to a Web Tools API server 140. Shipping assistant component 275 may display the network information in a log-in user interface 400 shown in Fig. 4. The network information may be displayed in fields http address 405, http port 410, proxy server 415, and proxy port 420. In addition, shipping assistant component 275 may retrieve operator information that was supplied during installation of the shipping assistant component 275 on call center system 130 for connecting to Web Tools API server 140. Shipping assistant component 275 may display the operator information in fields username 425, output path 435, default printer 440, company name 445, and company e-mail 450. Operator 120 may supply an API password 430. Alternatively, operator 120 may supply information for any of the fields.

[035] Thereafter, operator 120 clicks the continue button 455 to log into shipping assistant component 275. Shipping assistant component 275 retrieves the information from the user interface and verifies whether operator 120 is allowed to access the shipping services information based on the retrieved information. If the operator 120 is not allowed to access the shipping services information (i.e., not a valid user), shipping assistant component 275 sends a message to operator 120 indicating the error condition. Otherwise, shipping assistant component 275 may display to operator 120 one or more of the user interfaces shown in Figs. 5-19.

[036] Fig. 5 is a diagram of a user interface for accessing tracking and/or shipping confirmation information. An operator 120 may receive a telephone call from a customer 100 requesting tracking information about a

merchandise order that has been placed in a mail stream. As shown in Fig. 5, operator 120 may access a track/confirm user interface 500 by clicking tab 505. Customer 100 supplies to operator 120 a tracking id that is associated with the merchandise order. Operator 120 may input the tracking id into a tracking id field 555 and click an add button 560 to add the tracking id to a list of tracking id's for which status information is requested. Operator 120 may then click a submit button 565. Shipping assistant component 275 may display a status of processing of the request in a processing field 570. Thereafter shipping assistant component 275 generates a XML request for the tracking information for the given tracking id's and sends the XML request to a Web Tools API server 140 through network 110. Web Tools API server 140 retrieves the requested information and sends it in a XML response to shipping assistant component 275 at call center system 130. Shipping assistant component 275 may display the tracking information to operator 120 in a response track/confirm information field 550 as shown in Fig. 6. Operator 120 may provide the information to customer 100.

[037] Fig. 7 is a diagram of a user interface for accessing address checking information. An operator 120 may receive a telephone call from a customer 100 for a purchase of merchandise that is to be mailed to a recipient, but customer 100 only knows partial information about the recipient's address. For example, customer 100 does not know the recipient's ZIP code.

[038] Operator 120 may access an address checking user interface 500 by clicking tab 510. Customer 100 may provide to operator 120 a city and state of the recipients address. As shown in Fig. 7, operator 120 may input into user interface 500 the city 625 and state 630 of the recipient's address. Operator 120 may then click a submit button 565. Thereafter shipping assistant component 275 generates a XML request for the ZIP code information and sends the XML request to a Web Tools API server 140 through network 110. Web Tools API server 140 retrieves the requested information and sends it in a XML response to shipping assistant component 275 at call center system 130. Shipping assistant component 275 may display the five digit ZIP code in the ZIP code field 640 and the four digit

ZIP+4 code in the ZIP+4 field 650. Then operator 120 may provide the ZIP code information to the customer 100.

[039] In an alternate example, operator 120 receives a request from a customer 100 to verify a recipient's address for a merchandise order, the request includes the recipients name and address. Operator 120 accesses an address checking user interface 500 by clicking tab 510. As shown in Fig. 7, the operator 120 may input into user interface 500 the recipient's name 605, address 620, city 625, state 630, and ZIP code 640 information. Operator 120 then clicks the submit button 565. Thereafter shipping assistant component 275 generates a XML request based on the information from user interface 500. Next, shipping assistant component 275 sends the XML request to a Web Tools API server 140 through network 110. Web Tools API server 140 determines whether the address information is valid and sends a XML response to the shipping assistant component 275 at call center system 130. Shipping assistant component 275 creates a response, based on the XML response, indicating whether the address is valid. Then, shipping assistant component 275 displays the response to operator 120. Operator 120 may provide the response to customer 100.

[040] Fig. 8 is a diagram of a user interface for accessing domestic rates information. An operator 120 may receive a telephone call from a customer 100 for a purchase of merchandise that is to be mailed to a recipient within the United States. Operator 120 may use information provided by customer 100 to request a domestic rate for shipping the merchandise to the recipient. As shown in Fig. 8, operator 120 may access a domestic rates user interface 500 by clicking tab 515. Operator 120 may input information relevant to shipping the packaged merchandise, such as a shipping service type 705, which specifies the type of delivery service to use in shipping the packaged merchandise. In addition, operator 120 may input the weight of the packaged merchandise in pounds 725 and ounces 730, information about the ZIP code of the sender 710 and recipient 715, and zone 720. Operator 120 may also input information about the size of the packaged merchandise 745, and may then click a submit button 565.

[041] Thereafter, shipping assistant component 275 generates a XML request for the domestic rate information and sends the XML request to

Web Tools API server 140 through network 110. Web Tools API server 140 retrieves the requested information and sends it in a XML response to shipping assistant component 275 at call center system 130. Shipping assistant component 275 may display the domestic rate in a postage rate field 750 as shown in Fig. 9.

[042] Optionally, operator 120 may click a display restrictions button 740 to display restrictions on domestic shipping. For example, the restrictions are shown in Fig. 9 in a restrictions list 760.

[043] Fig. 10 is a diagram of a user interface for accessing international rates information. An operator 120 may receive a telephone call from a customer 100 for a purchase that is to be mailed to a recipient at an international location. Operator 120 may use information provided by customer 100 to request an international rate for shipping the merchandise to the recipient. As shown in Fig. 10, operator 120 may access an international rates user interface 500 by clicking tab 520. Operator 120 inputs information relevant to shipping the packaged merchandise, such as a destination country 805, and a package type 810. The package type 810 specifies the type of package to be shipped. The package type may include, for example, an envelope, package, postcard, etc. In addition, operator 120 may input the weight of the packaged merchandise in pounds 820 and ounces 825. Operator 120 may then click a submit button 565.

[044] Thereafter shipping assistant component 275 generates a XML request for the international rate information and sends the XML request to Web Tools API server 140 through network 110. Tools API server 140 retrieves the requested information and sends it in a XML response to shipping assistant component 275 at call center system 130. Shipping assistant component 275 may display the international rate in a service response field 815.

[045] Optionally, operator 120 may click a display conditions of mailing button 830 to display conditions on mailing the packaged merchandise. For example, the user interface for the conditions on mailing 840 is shown in Fig. 11. As shown in Fig. 11, the operator 120 may click a prohibitions button 845, which displays the prohibitions in a list field 875.

Alternatively, operator 120 may click a restrictions button 850, which displays the restrictions in the list field 875.

[046] Fig. 12 is a diagram of a user interface for accessing service standards information. An operator 120 may receive a telephone call from a customer 100 for merchandise that is to be mailed to a recipient via express mail. Customer 100 desires to know a time in which to expect delivery of the merchandise. Operator 120 may use information provided by customer 100 to request a service standard for shipping the merchandise to the recipient.

[047] As shown in Fig. 12, operator 120 may access a service standards user interface 500 by clicking tab 525. Operator 120 may input information relevant to a commitment on the delivery of the merchandise, such as a shipping service type 900, which specifies the type of delivery service to use in shipping the packaged merchandise. In addition, operator 120 may input information about the ZIP code of the sender 910 and the recipient 920. Operator 120 may then click a submit button 565.

[048] Thereafter, shipping assistant component 275 generates a XML request for the shipping standards information and sends the XML request to Web Tools API server 140 through network 110. Web Tools API server 140 retrieves the requested information and sends it in a XML response to the shipping assistant at the call center system 130. As shown in Fig. 13 shipping assistant component 275 may display the service standard for shipping during the weekday in field 940 and the standard for shipping during the weekend in field 950. Operator 120 may then provide the service standards to customer 100.

[049] Fig. 14 is a diagram of a user interface for accessing shipping label information. An operator 120 may receive a telephone call from a customer 100 for a shipping label, which is to be attached to a package containing merchandise that is to be mailed to a recipient. Operator 120 may access a shipping label user interface 500 by clicking tab 530 to request a shipping label, for example, a delivery confirmation label. Operator 120 receives information from the customer 100 about the sender and/or recipient of the merchandise, shipping service type, and information about the package, such as the weight of the packaged merchandise.

[050] As shown in Fig. 14, operator 120 inputs information about the sender in the from fields 1005 and information about the recipient in the to fields 1010. In addition, operator 120 supplies the weight of the package 1045, and a service type 1060. Operator 120 may select an image type 1055, label date 1050, and check an e-mail field 1070, which indicates whether to e-mail a delivery confirmation number to the sender and recipient of the merchandise. The delivery confirmation number provides for tracking the merchandise in a mail stream. Operator 120 may then click a submit button 565. Thereafter shipping assistant component 275 generates a XML request for the delivery confirmation label and sends the XML request to Web Tools API server 140 through network 110.

[051] Web Tools API server 140 retrieves the requested information, generates the requested delivery confirmation label with a corresponding delivery confirmation number, and sends the delivery confirmation label and delivery confirmation number in a XML response to shipping assistant component 275 at call center system 130.

[052] Shipping assistant component 275 may display the delivery confirmation number in the response field 1065 and provide the delivery confirmation label to operator 120. Then, operator 120 may provide the delivery confirmation label and delivery confirmation number to customer 100. The delivery confirmation label may be provided to customer 100 using any known delivery method. For example, the delivery confirmation label may be faxed to customer 100, e-mailed to customer 100, or printed at the telephone call center and mailed to customer 100. Alternatively, the delivery confirmation label may be sent to an e-commerce entity at an e-commerce server 150 for shipping the merchandise to the recipient. The delivery confirmation label may be attached to a package, along with any required postage, if any, and the package may be placed into the mail stream for delivery to the recipient specified on the delivery confirmation label.

[053] If operator 120 checked the e-mail field 1070, the user interface for e-mail delivery confirmation number shown in Fig. 15 may be displayed to operator 120. Operator 120 may enter the name 1086 and e-mail address 1087 of the sender and name 1089 and e-mail address 1090 of the recipient and click an "OK" button 1092 to submit the information to

shipping assistant component 275. Thereafter, shipping assistant component 275 sends an e-mail notification to the sender and recipient of the merchandise notifying both of the delivery confirmation number. The delivery confirmation number may be used to track the delivery status of the merchandise.

[054] One example of a delivery confirmation label is shown in Fig. 16. As shown in Fig. 16, a delivery confirmation label 1094 may include a delivery confirmation bar code 1095, a delivery confirmation number 1096, the name and address of a sender 1097, and the name and address of a recipient 1098. The delivery confirmation label 1094 may include a location for the placement of postage 1099 or optionally, an indication of pre-paid postage.

[055] The delivery confirmation barcode allows a sender and a recipient of a Priority Mail® or a Package Services mail item to obtain delivery confirmation information about the package's delivery based on the delivery confirmation number. As the package travels through a mail stream such as that provided by the USPS, the delivery confirmation barcode is scanned and the scanned information is stored in one or more tracking databases. Upon delivery of the package, the delivery confirmation barcode is scanned again, and the scanned information is stored in one or more tracking databases.

[056] Fig. 17 is a diagram of a user interface for accessing merchandise return information. The merchandise return user interface 500 may be used to request a merchandise return label from Web Tools API server 140. The merchandise return label may be attached to a package, and the package may be placed into the mail stream for return of merchandise to the recipient specified on the merchandise return label. For purpose of this example, the recipient is a retailer and may include an e-commerce entity at an e-commerce server 150. An operator 120 may receive a telephone call from a customer 100 for a merchandise return label to return merchandise to a recipient. Operator 120 may access a merchandise return user interface 500 by clicking tab 535, to request a merchandise return label for returning the merchandise to the recipient.

[057] Operator 120 receives information from the customer 100 and enters it into the fields of the user interface 500. The information may include,

for example, information about the sender 1105 and the recipient 1115, shipping service type 1150, and information about the package, such as the weight of the packaged merchandise 1132 and a return authorization number 1145. The return authorization number may include, for example, a return materials authorization ("RMA"). In addition, the information may include a mailing acknowledgement identification number 1142. The RMA and mailing acknowledgement identification number are described in detail in the aforementioned U.S. Provisional Application Serial No. 60/227,903 and copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785). Further, operator 120 may click a delivery confirmation checkbox 1130 to include a delivery confirmation barcode in the merchandise return label, and may click an e-mail merchandise return label checkbox 1135 to specify whether the merchandise return label is to be emailed to the sender.

[058] Operator 120 may then click a submit button 565. Thereafter shipping assistant component 275 generates a XML request for the merchandise return label and sends the XML request to Web Tools API server 140 through network 110. Web Tools API server 140 retrieves the requested information, generates the requested merchandise return label and sends the merchandise return label in a XML response to shipping assistant component 275 at call center system 130. Shipping assistant component 275 may display a delivery confirmation number in the response field 1165 and information regarding the cost of insurance 1162 for the merchandise. In addition, shipping assistant component 275 may display the shipping label to operator 120 as shown in Fig. 19. Operator 120 may send the merchandise return label 1170 to customer 100 using any known delivery method. For example, the merchandise return label may be faxed to customer 100, e-mailed to customer 100, or printed at the telephone call center and mailed to customer 100. The merchandise return label may then be applied to a package containing the merchandise. The package may then be placed into the mail stream for delivery to the recipient. The merchandise return label 1170 is described in detail in the aforementioned U.S. Provisional Application Ser No. 60/227,903 and copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785).

[059] If operator 120 checked the e-mail merchandise return label checkbox 1135, the e-mail merchandise return label user interface 500 shown in Fig. 18 may be displayed to operator 120. Operator 120 may enter the name 1176 and e-mail address 1177 of the sender and name 1179 and e-mail address 1180 of the retailer, and click an "OK" button 1185 to submit the information to shipping assistant component 275. Shipping assistant component 275 sends the merchandise return label to the sender via e-mail and sends an e-mail notification to the retailer of the merchandise notifying the retailer that a merchandise return label was sent to the sender.

[060] Fig. 20 is a diagram of a user interface for accessing courtesy reply information. The courtesy reply user interface 500 may be used to request a courtesy reply label from Web Tools API server 140. The courtesy reply label may be attached to a package, postage may be applied to the package, and the package may be placed into the mail stream for return of the merchandise to the recipient specified on the courtesy reply label. For purpose of this example, the recipient is a retailer. The courtesy reply label is described in detail in the aforementioned U.S. Provisional Application Ser No. 60/227,903 and copending U.S. Patent Application Serial No. (Atty Docket No. 08049.0785).

[061] An operator 120 may receive a telephone request for a courtesy reply label from a customer 100 who desires to return merchandise to a retailer. As shown in Fig. 18, operator 120 may access a courtesy reply user interface 500 by clicking tab 540. Operator 120 inputs information about the sender in the from fields 1205 of the courtesy reply user interface 500 and information about the retailer in the to fields 1250. Operator 120 may select an image type 1285, and provide any customer comments or an RMA number 1245. Operator 120 may then click a submit button 565. Thereafter shipping assistant component 275 generates a XML request for the courtesy reply label and sends the XML request to Web Tools API server 140 through network 110. Web Tools API server 140 retrieves the requested information, generates the requested courtesy reply label, and sends the courtesy reply label in a XML response to shipping assistant component 275 at call center system 130. Shipping assistant component 275 may display the courtesy reply label to operator 120 as shown in Fig. 19. Operator 120 may provide

the courtesy reply label to customer 100 using any known delivery method. For example, the courtesy reply label may be faxed to customer 100, e-mailed to customer 100, or printed at the telephone call center and mailed to customer 100.

[062] One example of a courtesy reply label is shown in Fig. 21. As shown in Fig. 21, a courtesy reply label 1290 may include an RMA number 1292, the name and address of a sender 1293, and the name and address of a retailer 1294. The courtesy reply label 1290 may include a location for the placement of postage 1295. The courtesy reply label 1290 may also include a delivery confirmation barcode.

[063] Fig. 22 is a schematic illustration of a system incorporating an embodiment of the invention through a back office mail center system. In accordance with the present invention. As shown in Fig. 22, a back office mail center system 130 may be connected to one or more customer systems 120 and a Web Tools API server 140 through a network 110. Back office mail center system 130 is loaded with shipping assistant component 275 software supplied on an external storage medium, such as a compact disc ("CD"), floppy disk, etc.

[064] Back office mail center system 130 is connected to Web Tools API server 140 via network 110, so that it may access shipping services information corresponding to the user interfaces shown in Figs. 5-21, and described in detail above. Network 110 may include, for example, a Local Area Network (LAN), a Wide Area Network (WAN), a wireless network, the Internet, an intranet, and/or any other network or communication medium known to one of ordinary skill in the relevant art. Communications between back office mail center system 130, customer systems 120, and Web Tools API server 140, may take place over network 110 through a secure sockets layer ("SSL") protocol or secure HyperText Transfer Protocol ("S-HTTP"). Back office mail center system 130 includes the system configuration shown in Fig. 2, and described above in the description of Fig. 2.

[065] Fig. 23 is a flowchart showing a method for obtaining shipping services information over a network by a back office mail center system. A back office mail center system 130 receives a request from a customer 120 for shipping services information (stage 1310). Back office mail center system

130 calls a shipping assistant component 275 to process the request. Shipping assistant component 275 generates a XML request for the shipping services information (stage 1320). Shipping assistant component 275 may make a network connection to Web Tools API Server 140 (stage 1330). Next, shipping assistant component 275 sends the XML request to Web Tools API server 140 through network 110 (stage 1340). Web Tools API server 140 receives the XML request, generates a XML response to the request, and sends the XML response over the network to back office mail center system 130. The XML response includes the requested shipping services information.

[066] Shipping assistant component 275 receives the XML response (stage 1350). Thereafter, shipping assistant component 275 extracts the shipping services information from the XML response (stage 1360). Thereafter, shipping assistant component 275 may provide the shipping services information to customer 120 by, for example, sending the shipping services information to customer 120 through network 110 (stage 1370). Alternatively, the shipping services information may be provided to customer 120 using any other known delivery method, such as fax, e-mail, physical (regular) mail, etc.

[067] The shipping services information may be in the format, for example, of a label. The label may be printed on a printer and applied to a package. Thereafter, the package may be placed into a mail stream for delivery to the recipient specified in the label.

[068] Other embodiments of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with a true scope and spirit of the invention being indicated by the following claims.

WHAT IS CLAIMED IS:

1. A method for obtaining shipping services information over a network by a call center receiving orders for merchandise, comprising:
 - receiving instructions at the call center to access the shipping services information residing on a server;
 - generating a request at the call center for the shipping services information for shipment of the merchandise;
 - sending the request for the shipping services information to the server over the network;
 - receiving at the call center the requested shipping services information from the server over the network; and
 - providing the shipping services information by the call center to an operator for shipment of the merchandise.
2. The method of claim 1 wherein the shipping services information is provided in a format to produce a label.
3. The method of claim 2 wherein the label includes merchandise return information thereon.
4. The method of claim 3 wherein the merchandise return information includes at least one of addressing information, barcode information, and return authorization number.
5. The method of claim 3 wherein the merchandise return information includes an indication of pre-paid postage.
6. The method of claim 2 wherein the label includes shipping information thereon.
7. The method of claim 6 wherein the shipping information includes at least one of addressing information, barcode information, and an indication of pre-paid postage.
8. The method of claim 1 wherein the call center is a retail telephone call center.
9. A system for obtaining shipping services information over a network by a call center receiving orders for merchandise, comprising:
 - means for receiving instructions at the call center to generate requests to access the shipping services information residing on a server;

means for generating a request at the call center for the shipping services information for shipment of the merchandise;

means for sending the request for the shipping services information to the server;

means for receiving at the call center the requested the shipping services information from the server; and

means for providing the shipping services information by the call center to an operator for shipment of the merchandise.

10. The system of claim 9 further comprising means for providing the shipping services information in the format of a label.

11. The system of claim 9 further comprising means for printing the shipping services information.

12. A method for obtaining shipping services information over a network by a call center receiving orders for merchandise, wherein the shipping services information includes a label, comprising:

receiving instructions at the call center to access the shipping services information residing on a server;

generating a request at the call center for the shipping services information for shipment of the merchandise;

sending the request for the shipping services information to the server over the network;

receiving at the call center the requested shipping services information from the server over the network; and

providing the label by the call center to an operator for shipment of the merchandise.

13. The method of claim 12 wherein the label includes merchandise return information thereon.

14. The method of claim 13 wherein the merchandise return information includes at least one of addressing information, barcode information, and return authorization number.

15. The method of claim 13 wherein the merchandise return information includes an indication of pre-paid postage.

16. The method of claim 12 wherein the label includes shipping information thereon.

17. The method of claim 16 wherein the shipping information includes at least one of addressing information, barcode information, and an indication of pre-paid postage.

18. The method of claim 12 wherein the call center is a retail telephone call center.

19. A system for providing shipping services information over a network to a call center receiving orders for merchandise, wherein the shipping services information includes a label, comprising:

means for receiving instructions at the call center to access the shipping services information residing on a server;

means for generating a request at the call center for the shipping services information for shipment of the merchandise;

means for sending the request for the shipping services information to the server over the network;

means for receiving at the call center the requested shipping services information from the server over the network; and

means for providing the label by the call center to an operator for shipment of the merchandise.

20. The system of claim 19 further comprising means for providing the shipping services information in the format of a label.

21. The system of claim 19 further comprising means for printing the label.

22. A method for obtaining shipping services information over a network by a mail center, wherein the shipping services information is in the format of a label and includes postage thereon, comprising:

receiving instructions at the mail center to access the shipping services information residing on a server;

generating a request at the mail center for the shipping services information;

sending the request for the shipping services information to the server over the network;

receiving at the mail center the requested shipping services information from the server over the network; and

providing the shipping services information by the mail center to a customer.

23. The method of claim 22 wherein the label includes merchandise return information thereon.

24. The method of claim 23 wherein the merchandise return information includes at least one of addressing information, barcode information, and return authorization number.

25. The method of claim 22 wherein the label includes shipping information thereon.

26. The method of claim 25 wherein the shipping information includes at least one of addressing information, and barcode information.

27. The method of claim 22 wherein the mail center is a back office mail center.

28. A system for obtaining shipping services information over a network by a mail center, wherein the shipping services information is in the format of a label and includes postage thereon, comprising:

means for receiving instructions at the mail center to access the shipping services information residing on a server;

means for generating a request at the mail center for the shipping services information;

means for sending the request for the shipping services information to the server over the network;

means for receiving at the mail center the requested shipping services information from the server over the network; and

means for providing the shipping services information by the mail center to a customer.

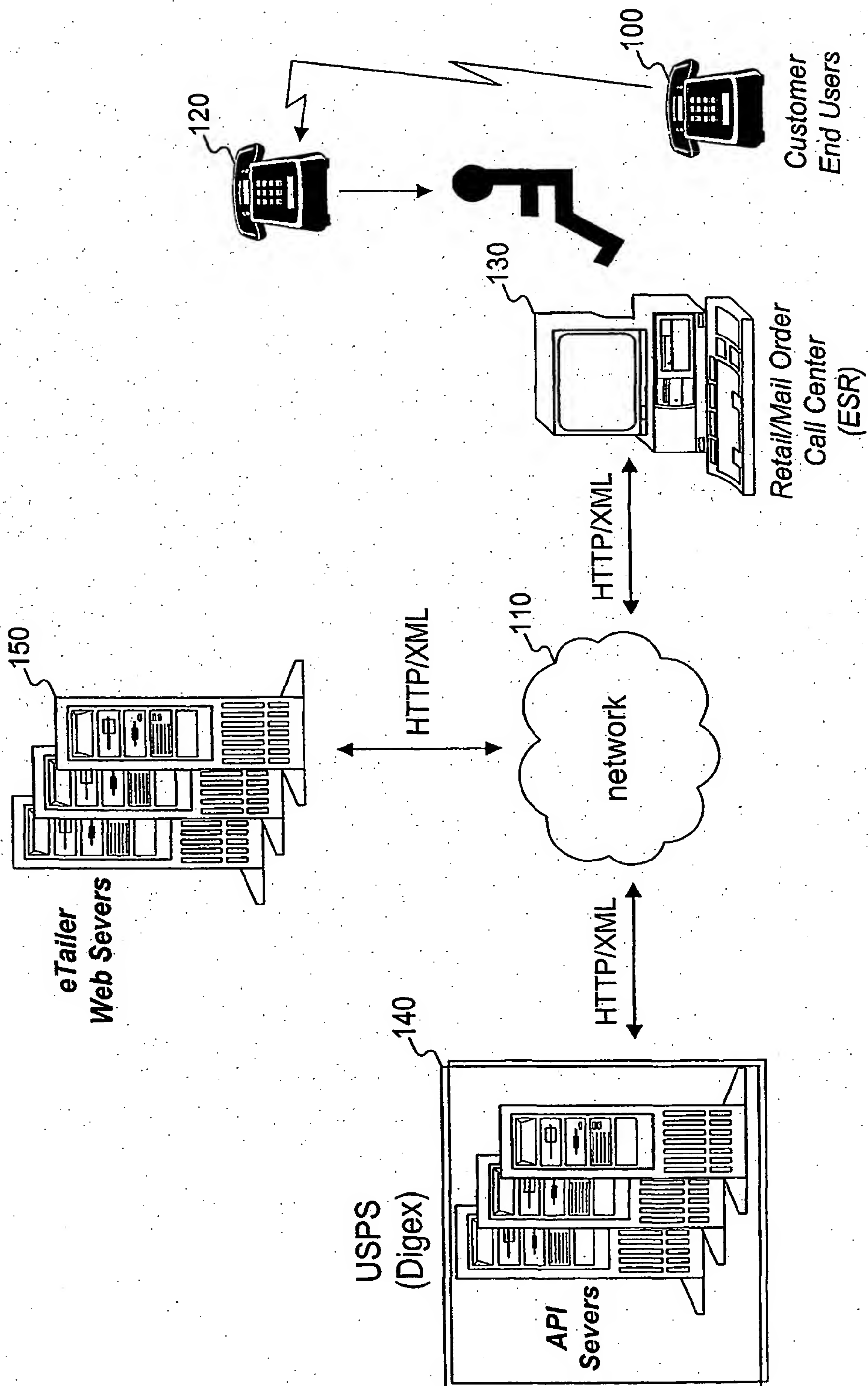


Fig. 1

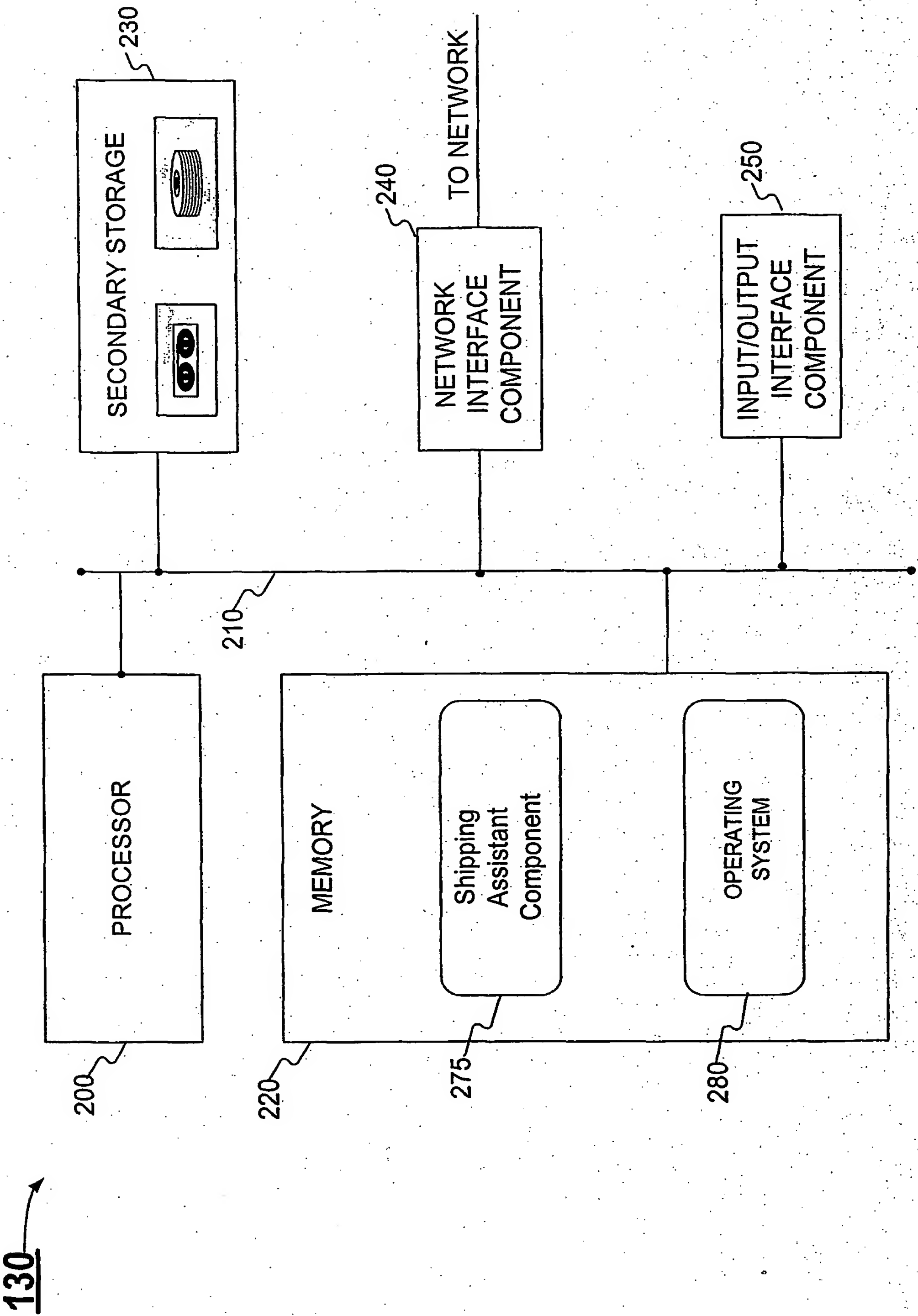


Fig. 2

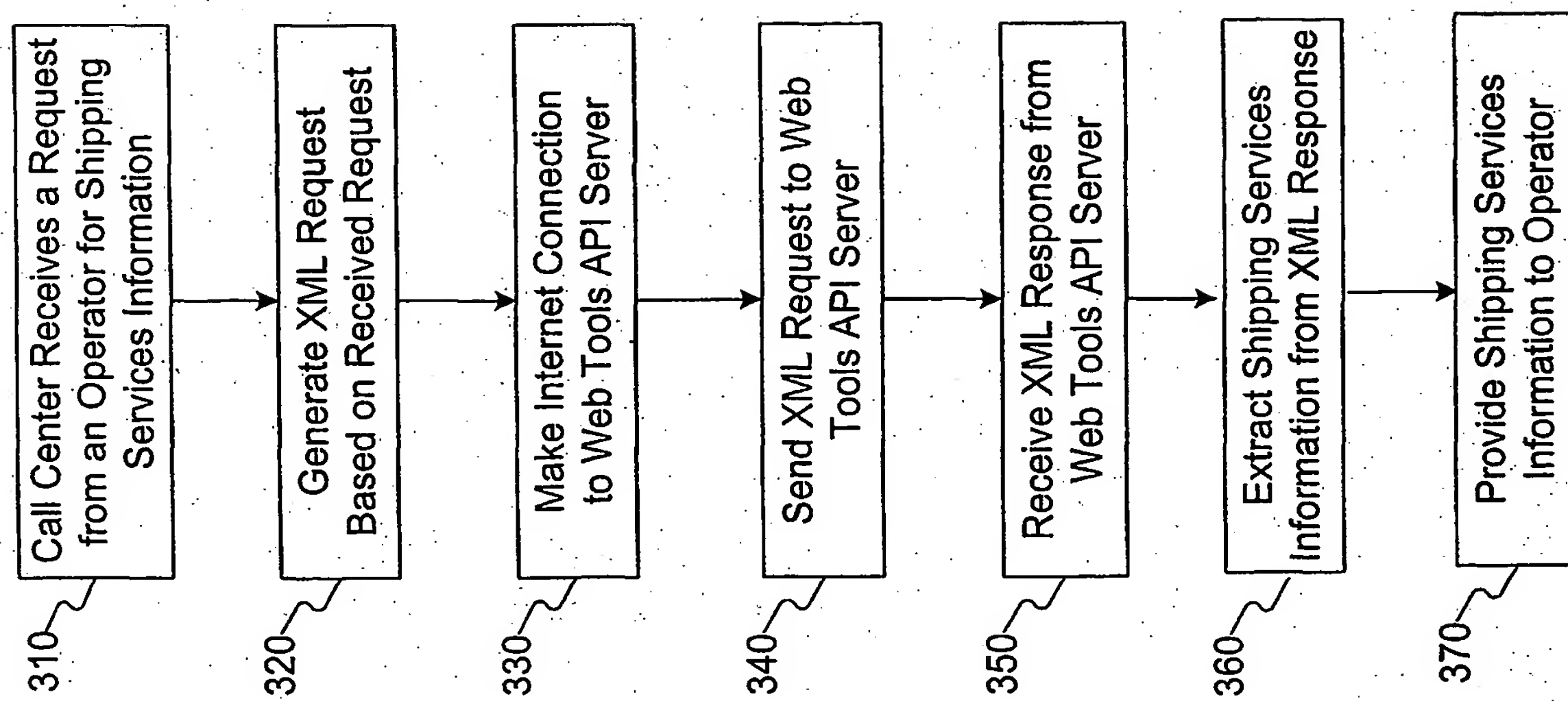


Fig. 3

Processing Information

Shipping Assistant Processing Information

Http Address

production.shippingapis.com

Http Port

80

Proxy Server

56.50.200

Proxy Port

8080

Username

455USP506615

API Password

139XX35AF359

Output Path

C:\PROGRAM FILES\SHIPPINGASST V1.2\Out

Default Printer

HP LaserJet 5L (PCL)

Company Name

XYZ Corporation

Company E-mail

XYZ@retailer.com

Sender address used in e-mail messages [Merchandise Return and Delivery Confirmation tabs only].

Continue

Fig. 4

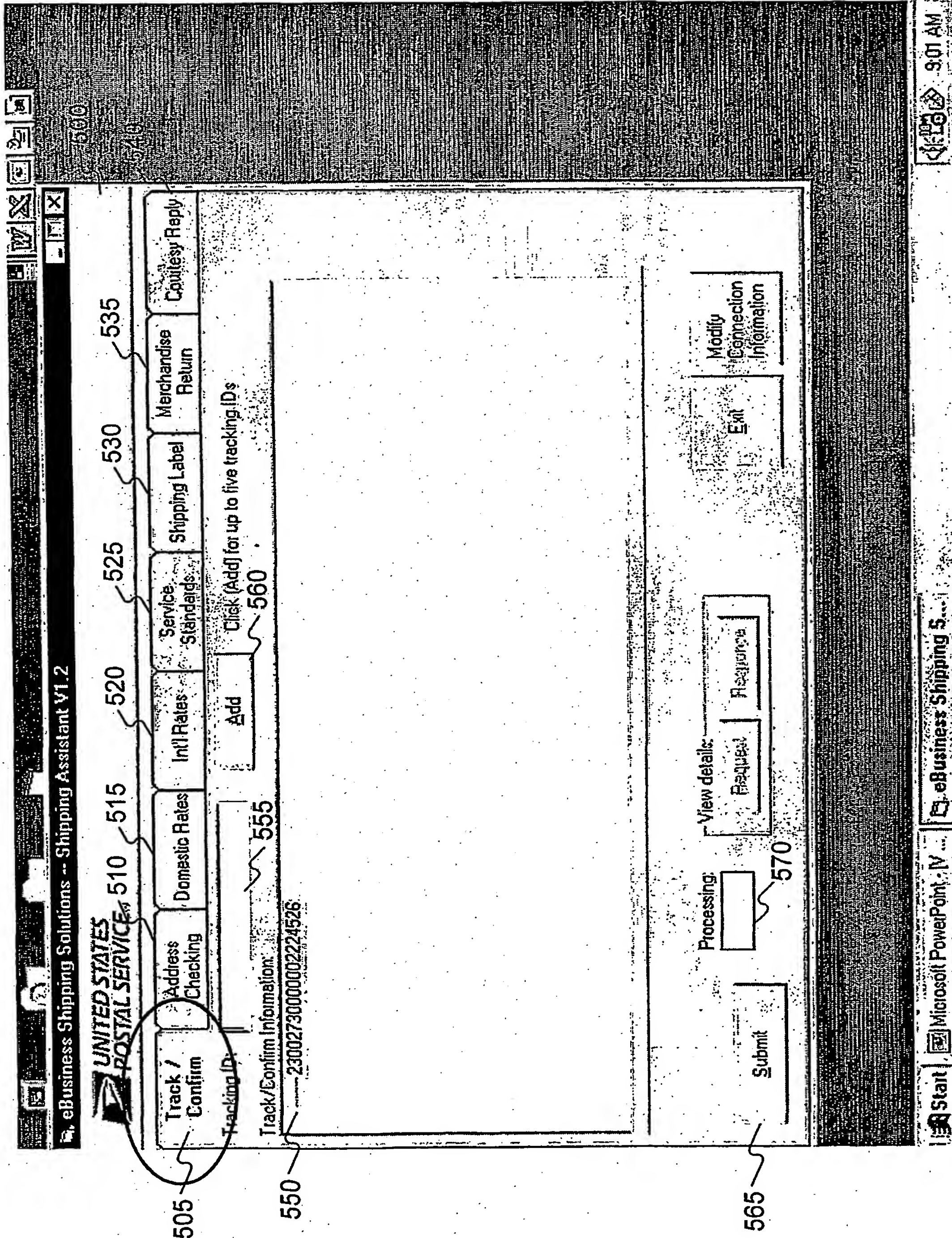


Fig. 5

505

550

565

570

535

530

525

520

515

510

UNITED STATES
POSTAL SERVICE

eBusiness Shipping Solutions -- Shipping Assistant V1.2

Track / Confirm

Address Checking

Domestic Rates

Int'l Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

Tracking ID:

Track/Confirm Information:

2300273000000224526

Your item was delivered at 9:56 am on January 22 in ENGLEWOOD NJ 07631 to N Kalantani.

January 18 11:31 am ACCEPT OR PICKUP PROVIDENCE RI 02906

Click (Add) for up to five tracking IDs

Add

555

560

Processing:

Complete

View details:

Request

Response

Exit

Modify Connection Information

Submit

Start

Microsoft PowerPoint - N

eBusiness Shipping S...

9:01 AM

Fig 6

505 eBusiness Shipping Solutions -- Shipping Assistant V1.2

515 UNITED STATES POSTAL SERVICE®

520 525 530 535 540

Track / Confirm Address Checking Domestic Rates Int'l Rates Service Standards Shipping Label Merchandise Return Courtesy Reply

User Name L Eshopper 605

Firm 610

Ste/Apt 615

Address 6417 Westchester 620

City Houston 625

State TX 630

ZIP 77034 640

Clear 635

Submit ZIP Code only 565

Submit 570

View details 655

Request 660

Modify Connection Information 670

Note: Address Checking functionality is available by special registration only. Contact your USPS Account Manager for access.

Microsoft PowerPoint - IV ... eBusiness Shipping S NetWare Broadcast Message 9:04 AM

Fig. 7

505

705

715

720

565

740

730

745

750

570

510

515

520

525

530

535

540

UNITED STATES POSTAL SERVICE

Track / Confirm

Address Checking

Domestic Rates

Int'l Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

Weight (5 to 70 lbs)

Pounds

Ounces

Machinable

Flat Rate Envelope?

Package Size

Dest

Zone

Postage Rate

Display APD/FPQ Restrictions

Processing

View details

Request

Response

Submit

Exit

Modify Connection Information

Start

Microsoft PowerPoint - V...

eBusiness Shipping S...

9:05 AM

Fig. 8

6. 2. 11

505 — Track / Confirm

510 — Address Checking

515 — Domestic Rates

520 — Int'l Rates

525 — Service Standards

530 — Shipping Label

535 — Merchandise Return

540 — Courtesy Reply

805 — Destination Country: Australia

810 — Package Type: Package

815 — Envelope Package Postcards or Aerogrammes Matter for the Blind

Weight: 2 Pounds, 8 Ounces

820 — Pounds

825 — Ounces

830 — Display Conditions of Mailing

565 — Processing

570 — View details

Request

Response

Submit

Exit

Modify Connection Information

Start

Microsoft PowerPoint

eBusiness Shipping S...

NetWare Broadcast Message

9:13 AM

Fig. 10

11/23

505

805

810

815

565

UNITED STATES POSTAL SERVICE
510 515 520 525 530 535 540

Track / Confirm

Address Checking

Domestic Rates

Int'l Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

Destination Country: Australia

Package Type: Package

Weight: 820 Pounds 2 Ounces 8

Display Conditions of Mailing

Service Response(s):

Postage - \$28.00

Commitment - 2-3 Days

Description - Global Express Mail (EMS)

Dimensions - Max. length 36", max. length plus girth 79"

Max Weight - 44

ID 3

Postage - \$9.00

Commitment - 3-5 Days

Description - Global Priority Mail - Flat-rate Envelope (lar)

Dimensions - 9-1/2" x 12-1/2"

Processing: Complete Request View details

Submit Close

840

875

Conditions of Mailing

Prohibitions: Coins, bank notes; currency notes (paper money); securities of any kind payable to bearer; traveler's checks; platinum, gold, and silver (manufactured or not); precious stones; jewelry; and other valuable articles are prohibited in registered and unregistered letter packages, small parcels, air and surface parcels, and Express Mail International Service shipments that are mailed to Australia.

Restrictions: Fruit cactons (used or new); Goods bearing the name "Anzac."

Observations: Goods produced wholly or partly in prisons or by convict labor.

Custom Forms: Radioactive materials; Registered philatelic articles with fictitious addresses; Seditious literature; Silencers for firearms; Used bedding.

Express Mail

Close

Start

Microsoft PowerPoint

eBusiness Shipping Solu...

NewWare Broadcast Message

Conditions of Mailing

9:15 AM

Fig. 11

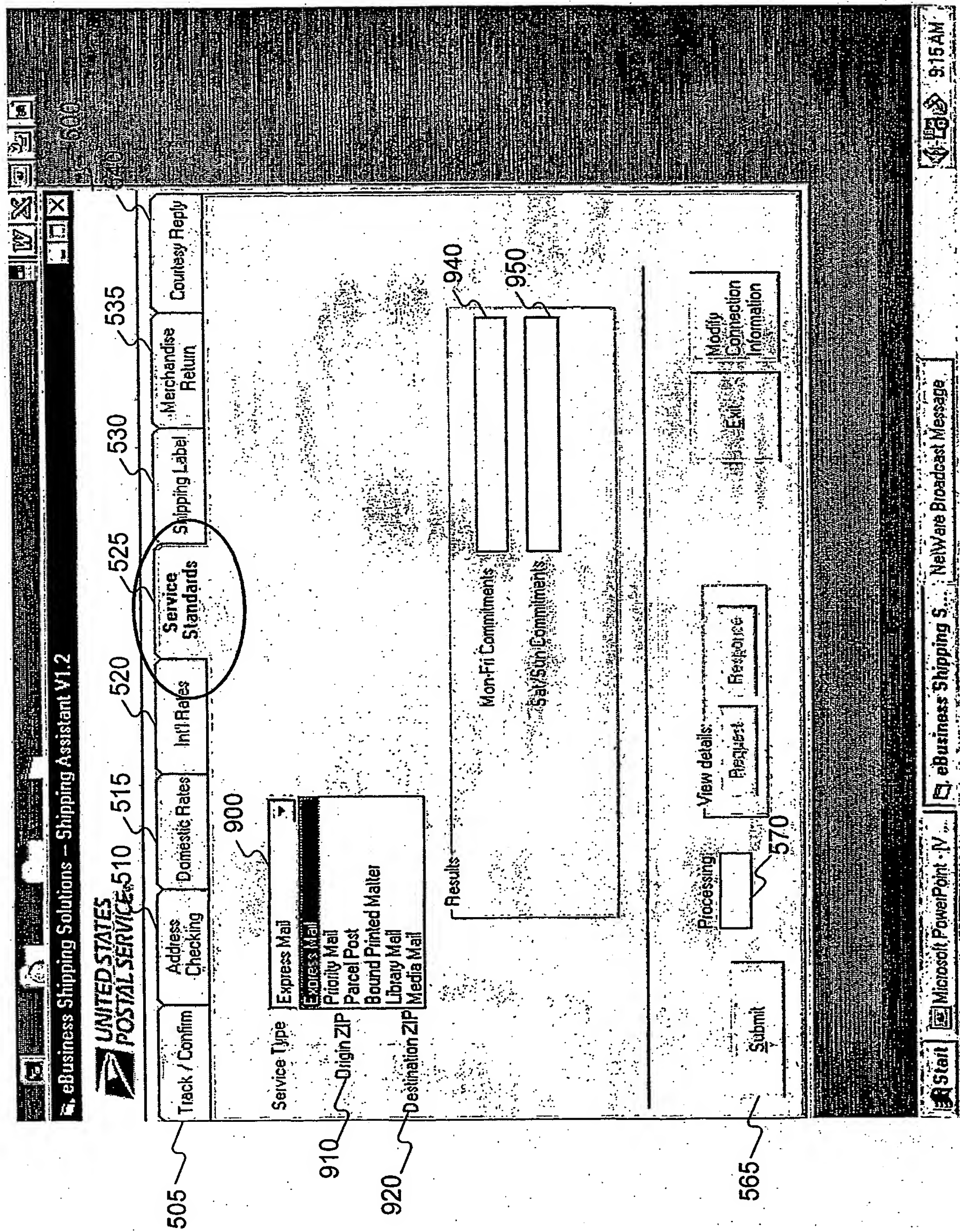


Fig. 12

505

535

530

525

520

515

510

UNITED STATES POSTAL SERVICE

Track / Confirm

Address Checking

Domestic Rates

Int'l Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

Service Type 910

Origin ZIP 920

Destination ZIP 920

Results 930

Mon-Fri Commitments 940

12:00 PM

Sat/Sun Commitments 950

3:00 PM

Processing 565

Complete 570

Submit

View details

Request

Response

Modify Connection Information

Exit

Start


Microsoft PowerPoint - IV

eBusiness Shipping S...

NetWare Broadcast Message

9:16 AM

Fig. 13



**UNITED STATES
POSTAL SERVICE**

eBusiness Shipping Solutions -- Shipping Assistant V1.2

510

520

525

530

535

540

Track / Confirm

Address Checking

Domestic Rates

Int'l Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

From: 1005

Name: XYZ Corporation

Firm:

Ste/Apt:

Address: 1234 eTeller Ave.

City: Los Angeles

State: CA ZIP: 90052 ZIP+4: 3234

☐ Test / Sample ☐ Delivery Confirmation only

☐ Label ☐ Delivery Confirmation w/ Address

☐ Save form fields and response to output path?

To: 1010

Name: L Eshopper

Firm:

Ste/Apt:

Address: 6417 WESTCHESTER ST

City: Houston

State: TX ZIP: 77005 ZIP+4: 3761

☐ Clear ☐ Use Checked Address

Response: 1065

Delivery Confirmation #:

Weight in Ounces: 40 1045

Label Date: Today 1050

Service Type: Priority Mail 1060

☒ E-Mail the Delivery Confirmation Number?

Image Type: PDF 1055

Request

Response

Display Image

Exit

Modify Connection Information

Pro Select this to send an e-mail message containing the DC number to a recipient.

Submit

570

Fig. 14

Fig. 15

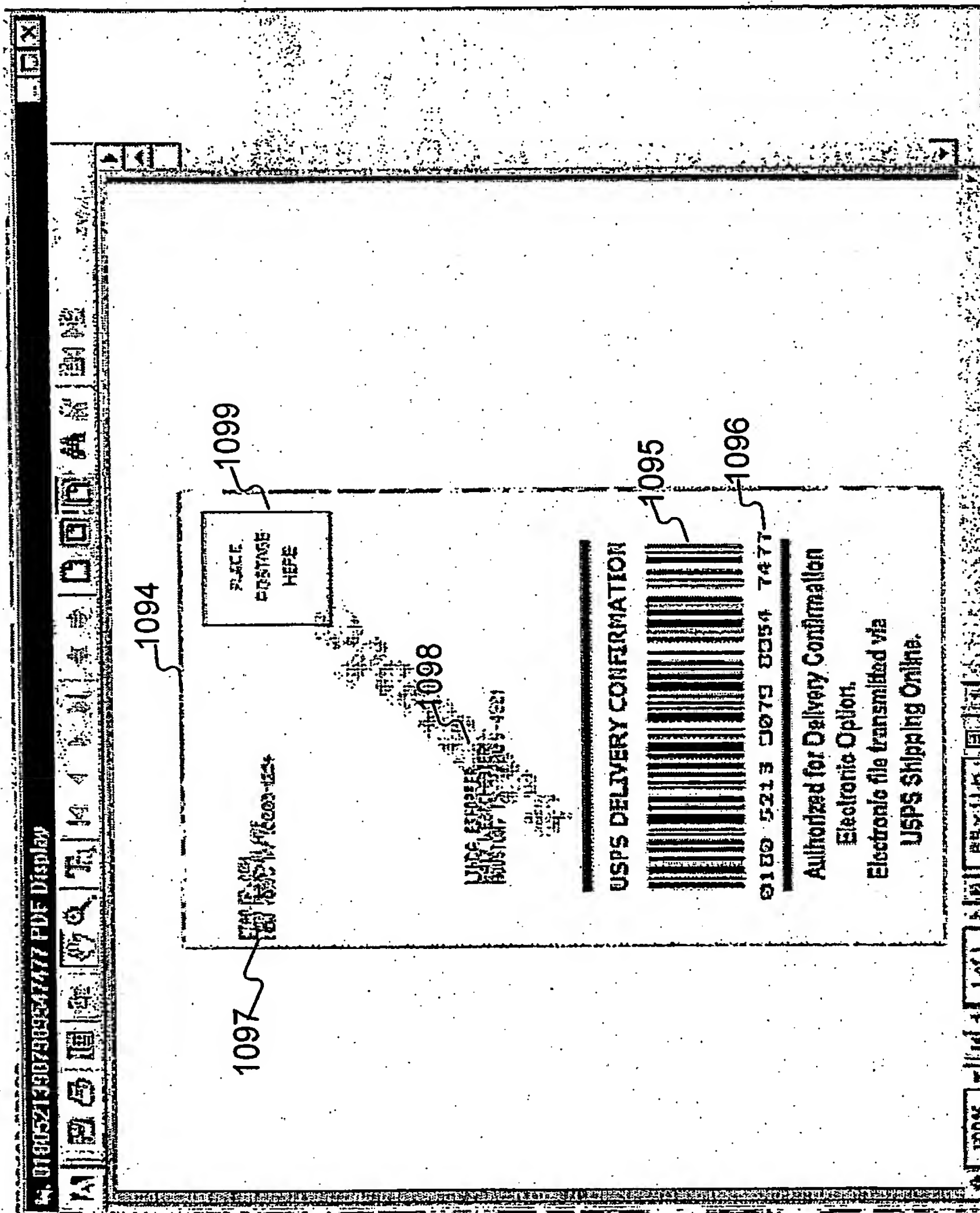


Fig. 16

UNITED STATES
POSTAL SERVICE

eBusiness Shipping Solutions -- Shipping Assistant V1.2

505

Track / Confirm

Address Checking

Domestic Rates

Intl Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

510

515

520

525

530

535

540

Customer Info

1105

Name

L. Eshopper

Address

6417 WESTCHESTER ST

City

HOUSTON

State

TX

ZIP

77005

Clear

Use Checked Address

Postage Due Unit Info

PO Box

PO Box 9998

City

New York

State

NY

ZIP

10005

ZIP+4

1234

1150

Service Type

Priority Mail

1152

Label Image Type

PDF

Test / Sample Label

☒

565

Submit

1115

Retailer's Name

XYZ eBooks

Retailer's Address

1000 eTeller Ave.

Permit Info

Number

1234512345

Issuing City

New York

State

NY

ZIP

10003

1130

Delivery Confirmation

1132

Package Pounds

2

1140

Insurance \$

500

1142

Insurance Cost \$

160

1145

Response

Postal Zone

160

1147

RMA Barcode?

987654321

1135

Postage Due Unit Info

1140

Insurance \$

500

1142

Insurance Cost \$

160

1145

Response

Postal Zone

160

1147

RMA Barcode?

987654321

1165

Delivery Confirmation #

1162

Insurance Cost \$

160

570

Request Response

Display Image

Exit

Connection Information

500

Save form fields and response to output path?

550

Select this to save data in file MRyyyymmdd.csv in Output Path. Output Path can be changed by clicking the Modify Connection Information button on this form.

Fig. 17

NSDOCID: <WO_0221388A1_1>

Fig. 18

FROM:
L. ESHOPPER
8417 WESTCHESTER ST
HOUSTON, TX 77065

**POSTAGE DUE COMPUTED
BY ACCEPTANCE POST OFFICE**

POSTAGE
MERCHANDISE RETURN FEE
DELIVERY CONFIRMATION FEE
INSURANCE FEE
TOTAL POSTAGE AND FEES DUE \$ 13.00

INSURANCE DESIRED BY PERMIT HOLDER FOR (VALUE)
\$ 500.00

USPS DELIVERY CONFIRMATION

8580 5213 5075 4756 3442

PRIORITY MAIL

**NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES**

987654321

MERCHANDISE RETURN LABEL
PERMIT NO. 123456789 NEW YORK NY 10003
XYZ EBOOKS 1000 ETAILER AVE.

**POSTAGE DUE UNIT
US POSTAL SERVICE
PO BOX 9998
NEW YORK NY 10005-1234**

Customer Mailing Instructions

FROM: L. ESHOPPER
8417 WESTCHESTER ST

Saves a copy of the file
ID# 1234567

100% 1 of 1 8.5 x 11 in

Start Microsoft PowerPoint IV ...

eBusiness Shipping S... NetWare Broadcast Message

9:25 AM

Fig. 19

1170

UNITED STATES
POSTAL SERVICE

eBusiness Shipping Solutions -- Shipping Assistant V1.2

Track / Confirm

Address Checking

Domestic Rates

Int'l Rates

Service Standards

Shipping Label

Merchandise Return

Courtesy Reply

From:

Name

Firm

Ste/Apt

Address

City

State

Clear

L. Eshopper

6417 WESTCHESTER ST

HOUSTON

TX

ZIP

77005

ZIP+4

3761

Use Checked Address

To:

Return Department

eTailer

500 Madison Ave

New York

NY

ZIP

10005

ZIP+4

1234

Comment or RMA #:

987654321

Image Type:

PDF

Processing:

Submit

View details:

Request

Response

Display Image

Exit

Modify Connection Information

Fig. 20

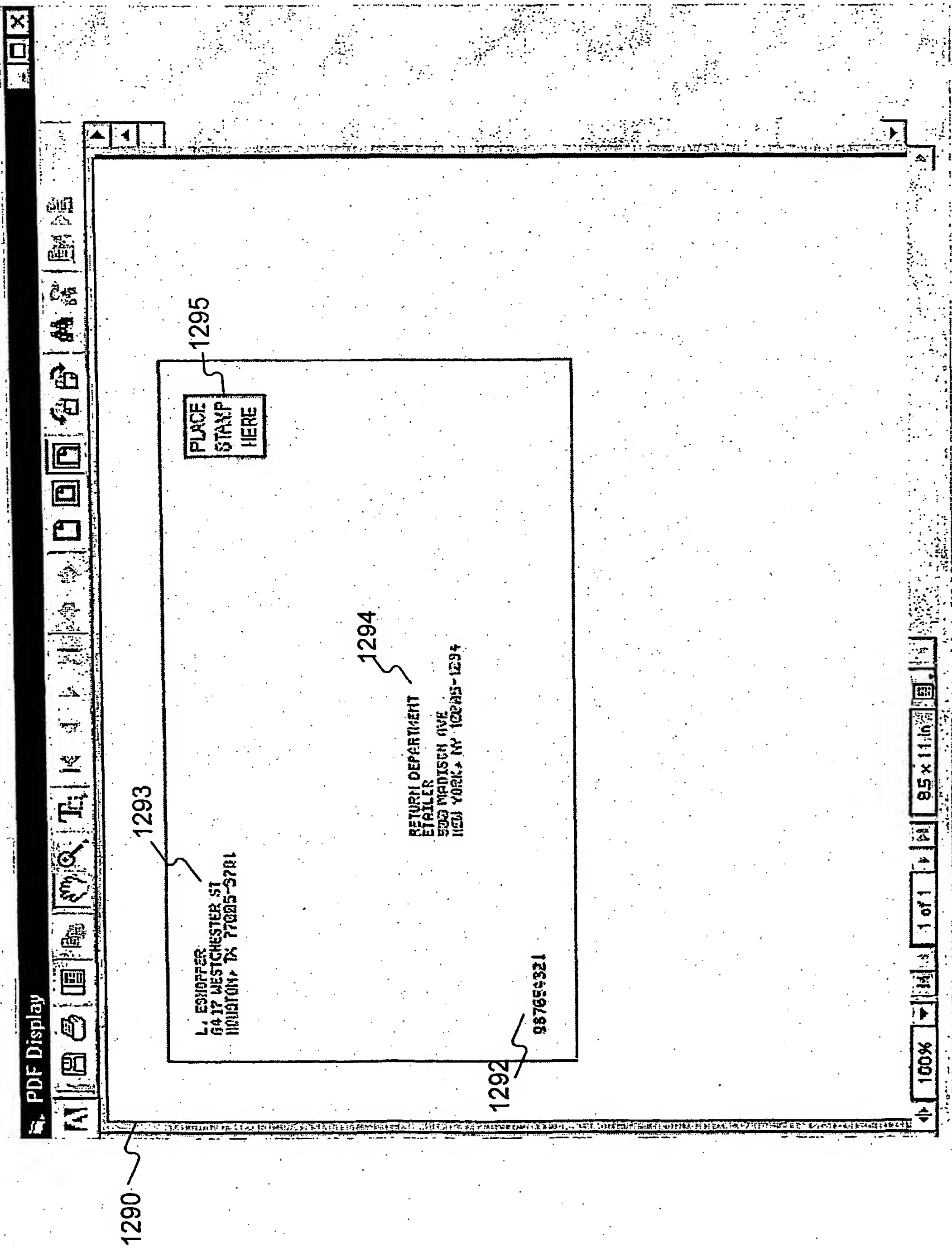


Fig. 21

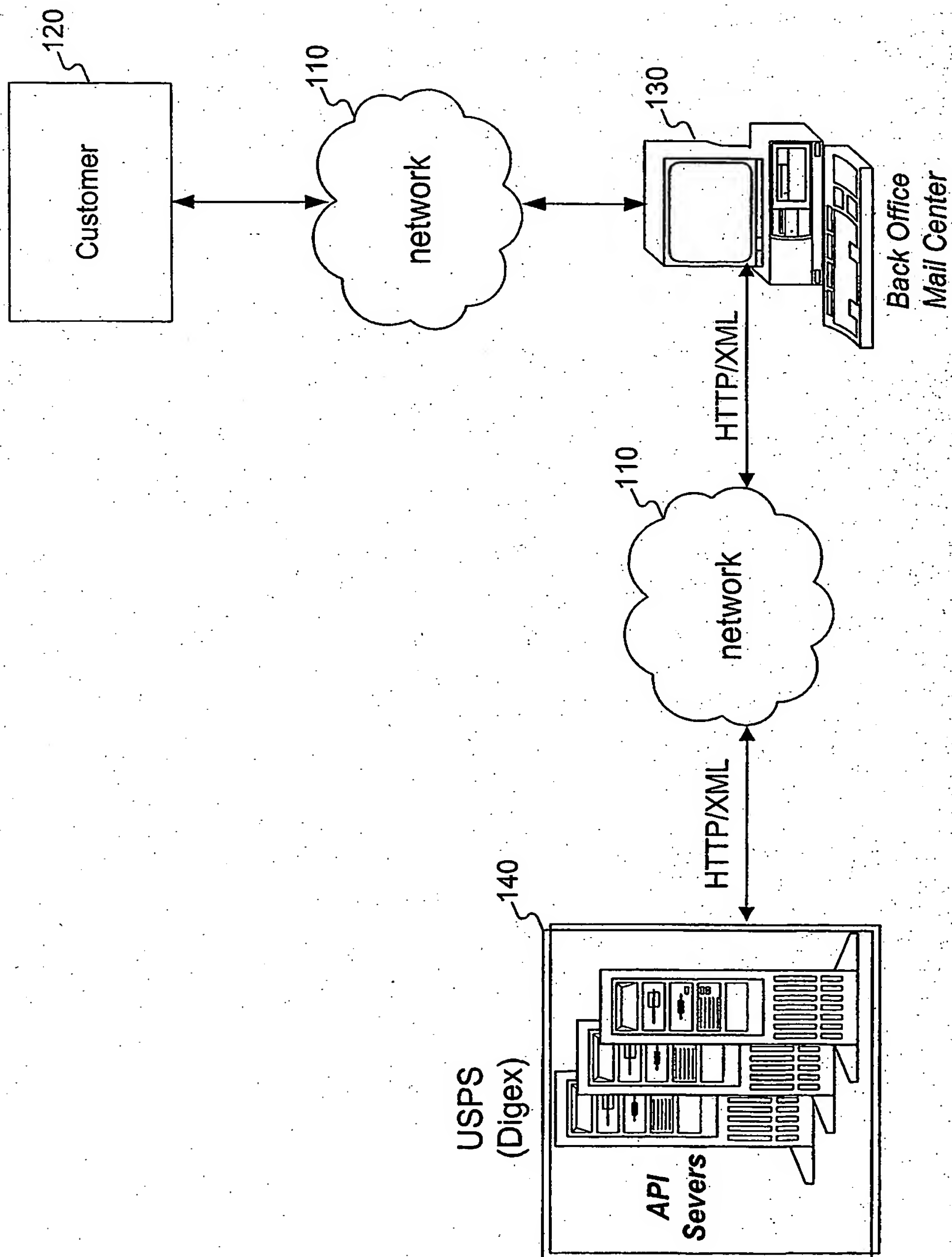
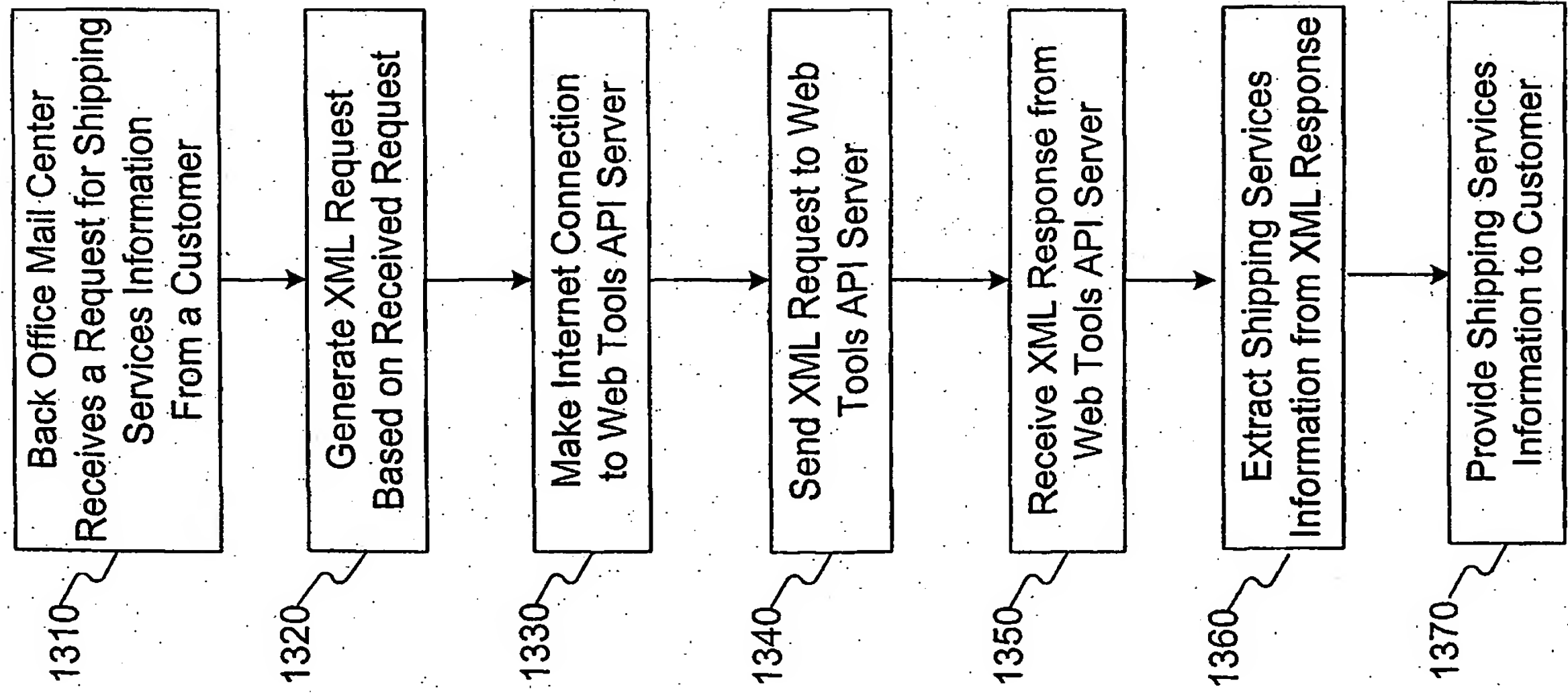


Fig. 22

Fig. 23



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/27535

A. CLASSIFICATION OF SUBJECT MATTER												
IPC(7) : G06F 17/60 US CL : 705/410												
According to International Patent Classification (IPC) or to both national classification and IPC												
B. FIELDS SEARCHED												
Minimum documentation searched (classification system followed by classification symbols) U.S. : 705/410, 1, 402, 406												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)												
C. DOCUMENTS CONSIDERED TO BE RELEVANT												
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
A	US 6,047,273 A (VAGHI) 04 April 2000 (04.04.2000), See entire document	1-28										
A	US 6,064,981 A (BARNI et al) 16 May 2000 (16.05.2000), See entire document	1-28										
A	US 5,341,505 A (WHITEHOUSE) 23 August 1994 (23.08.1994), See entire document	1-28										
A,P	US 6,233,568 B1 (KARA) 15 May 2001 (15.05.2001), See entire document	1-28										
A	US 6,078,889 A (BOUCHER et al) 20 June 2000 (20.06.2000), See entire document	1-28										
A,P	US 6,220,509 B1 (BYFORD) 24 April 2001 (24.04.2001), See entire document	1-28										
A	US 6,061,667 A (DANFORD-KLEIN et al) 09 May 2000 (09.05.2000), See entire document	1-28										
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.												
* Special categories of cited documents: <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention											
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone											
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
Date of the actual completion of the international search		Date of mailing of the international search report										
13 December 2001 (13.12.2001)		09 JAN 2002										
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230		Authorized officer John W Hayes <i>James R. Matthews</i> Telephone No. (703)305-9700										

Form PCT/ISA/210 (second sheet) (July 1998)